

Observations on
IPCC Fourth Assessment
Working Group III
Mitigation of Climate Change
(My Own Personal Opinion on
What Should be Concluded)

Stanford Energy Seminar
and Environmental Policy Forum

J. Weyant

Observations on Mitigation Costs

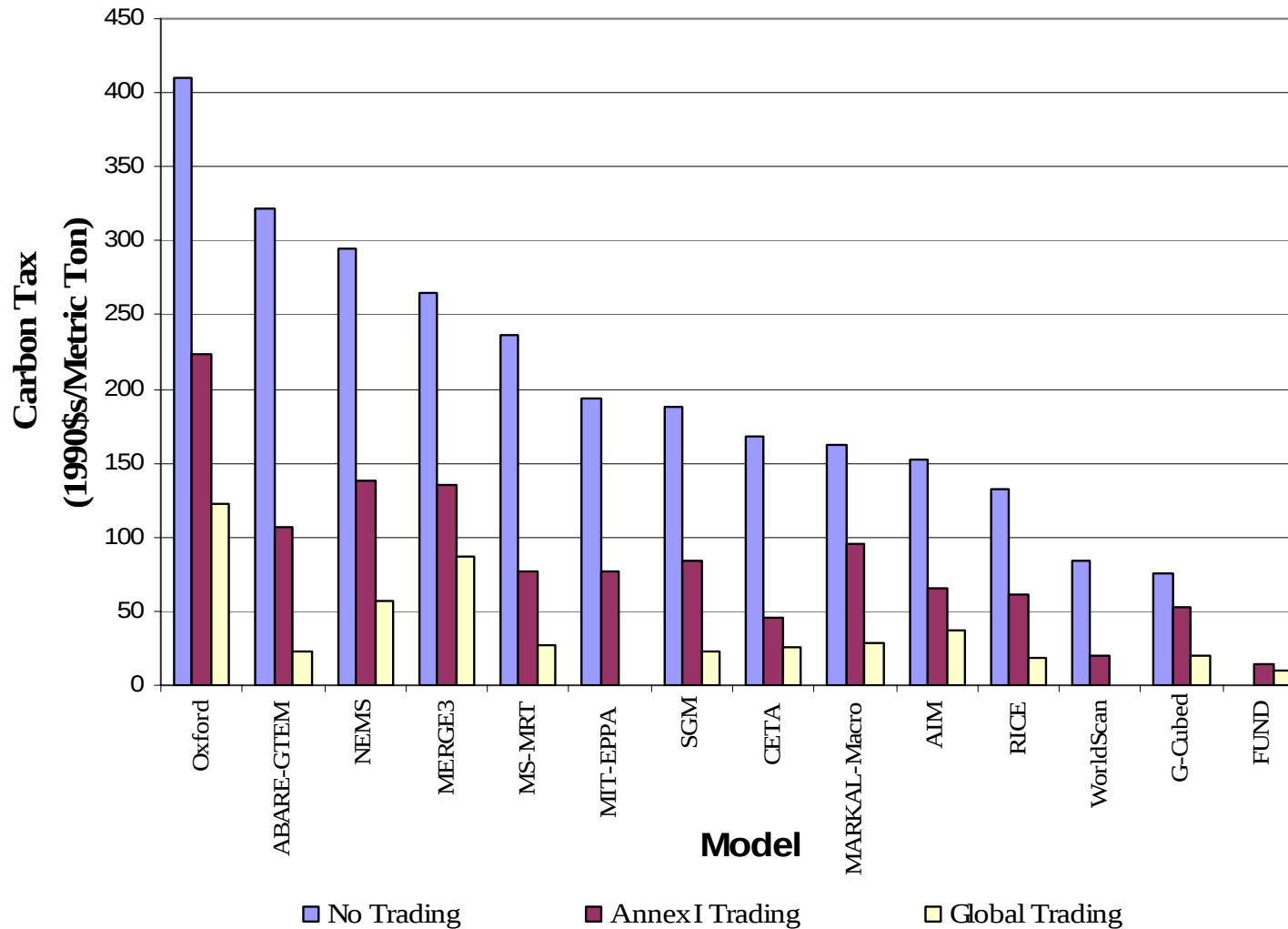
- They are very uncertain.
- They are very dependent on policy architecture/implementation.
- We can put some very rough bounds on the cost estimates.
- There will continue to be a lot of learning about both institutions and technologies.
- Let's not put the cart before the horse.

Four Mitigation Policy Flexibilities

1. Where Flexibility
2. When Flexibility
3. How Flexibility
4. What Flexibility

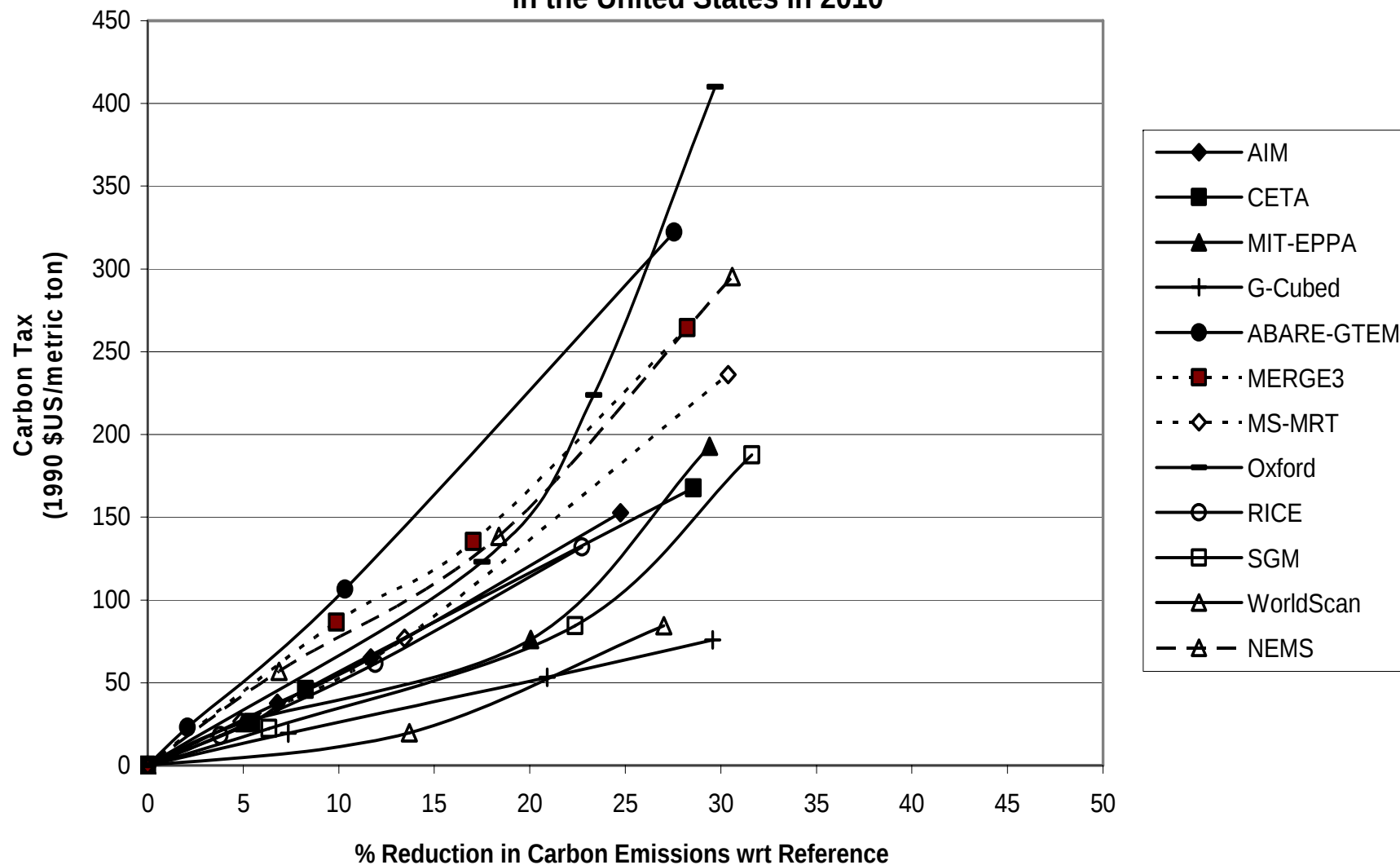
Where Flexibility The Cost of Kyoto

Year 2010 Carbon Tax Comparison for the United States

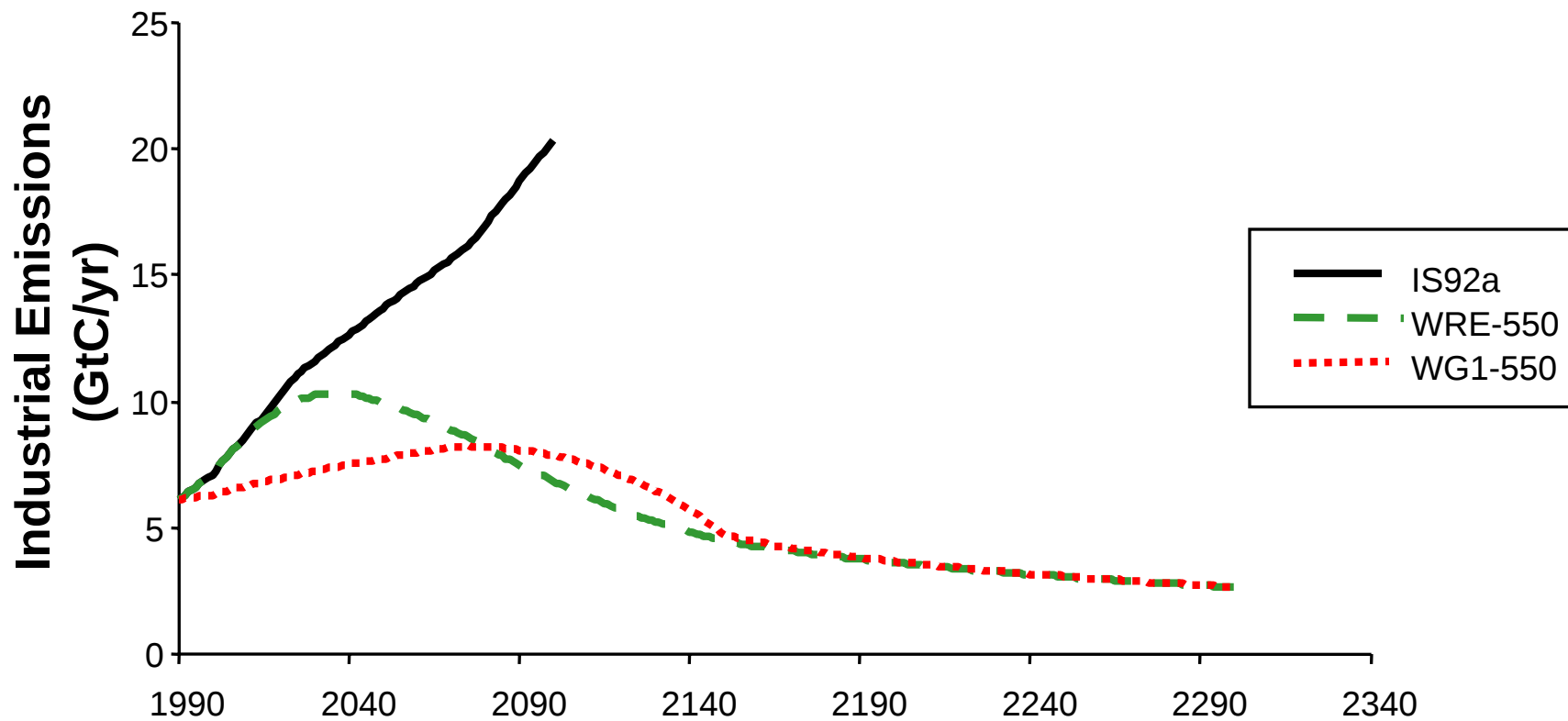


The Substitution in the Models

Marginal Cost of Carbon Emission Reductions
in the United States in 2010

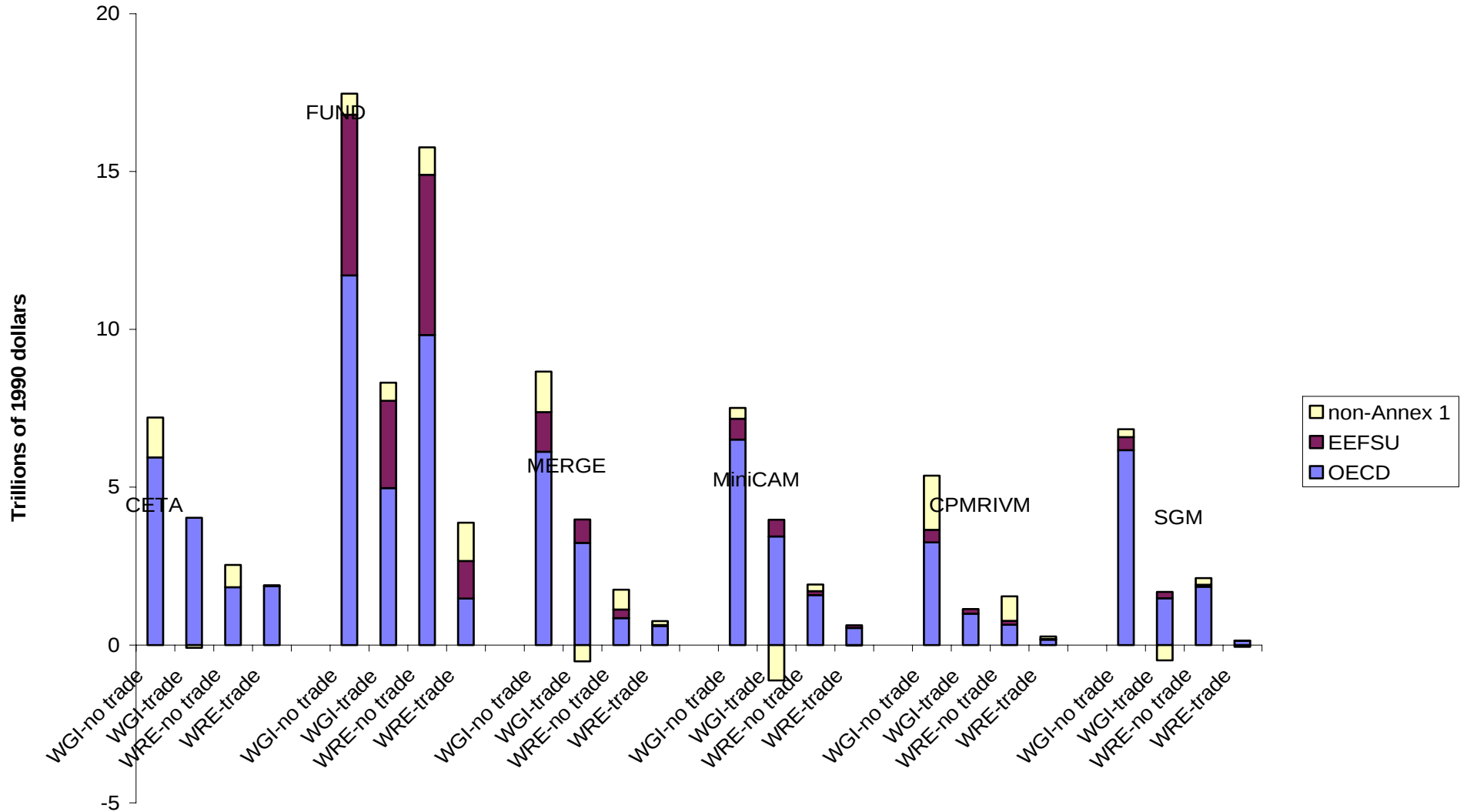


Alternative Emission Paths for Stabilizing Atmospheric Concentrations of CO₂ at 550 ppmv (Parts Per Million by Volume)



Where and When Flexibility

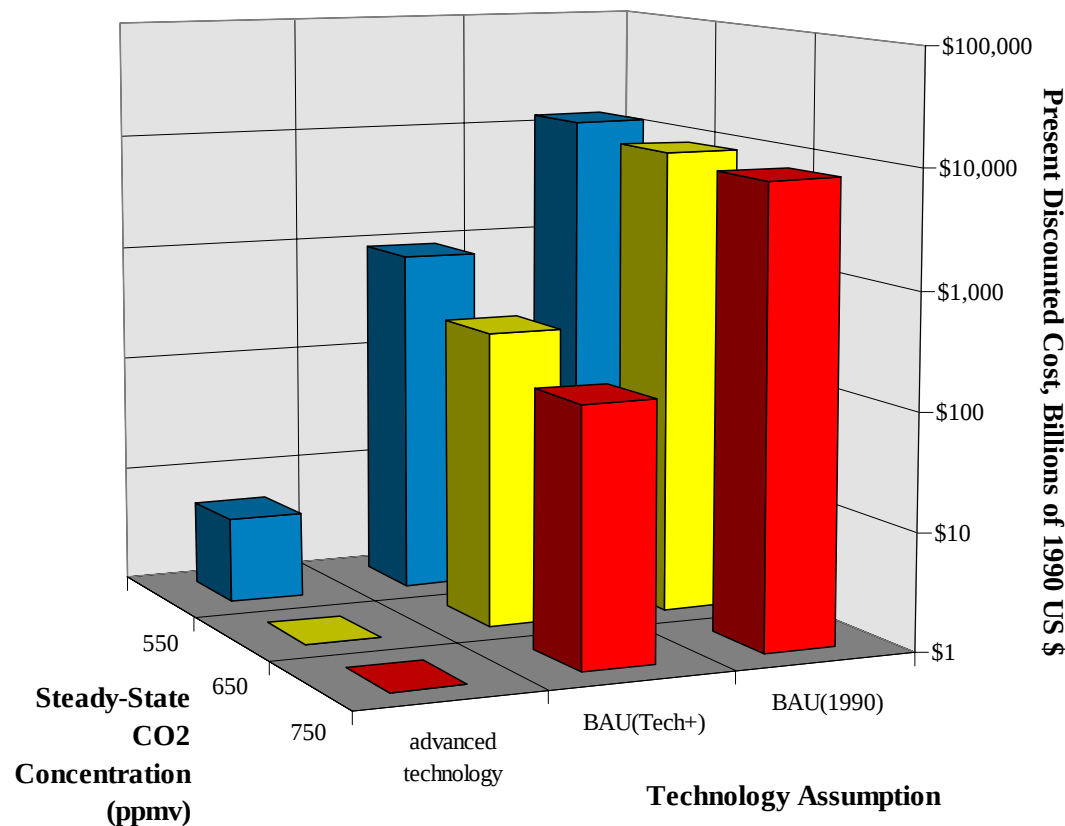
Costs of Stabilizing Concentrations at 550 ppmv -- discounted to 1990 at 5 %



How Flexibility

The VALUE OF DEVELOPING NEW ENERGY TECHNOLOGY

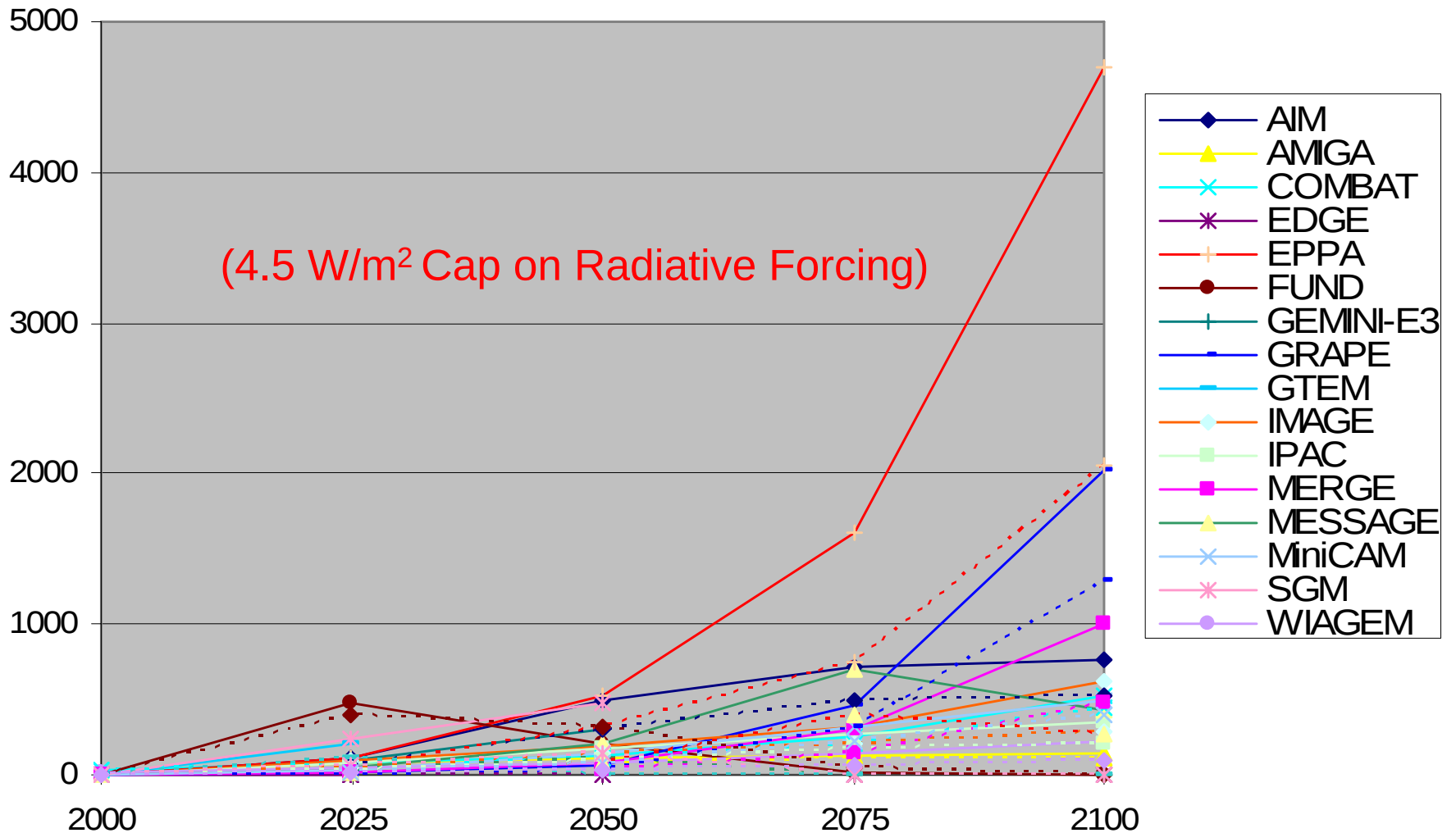
(Present Discounted Costs to Stabilize the Atmosphere)



Minimum Cost
Based on Perfect
Where & When
Flexibility
Assumption.
Actual Cost
Could be An
Order of
Magnitude
Larger.

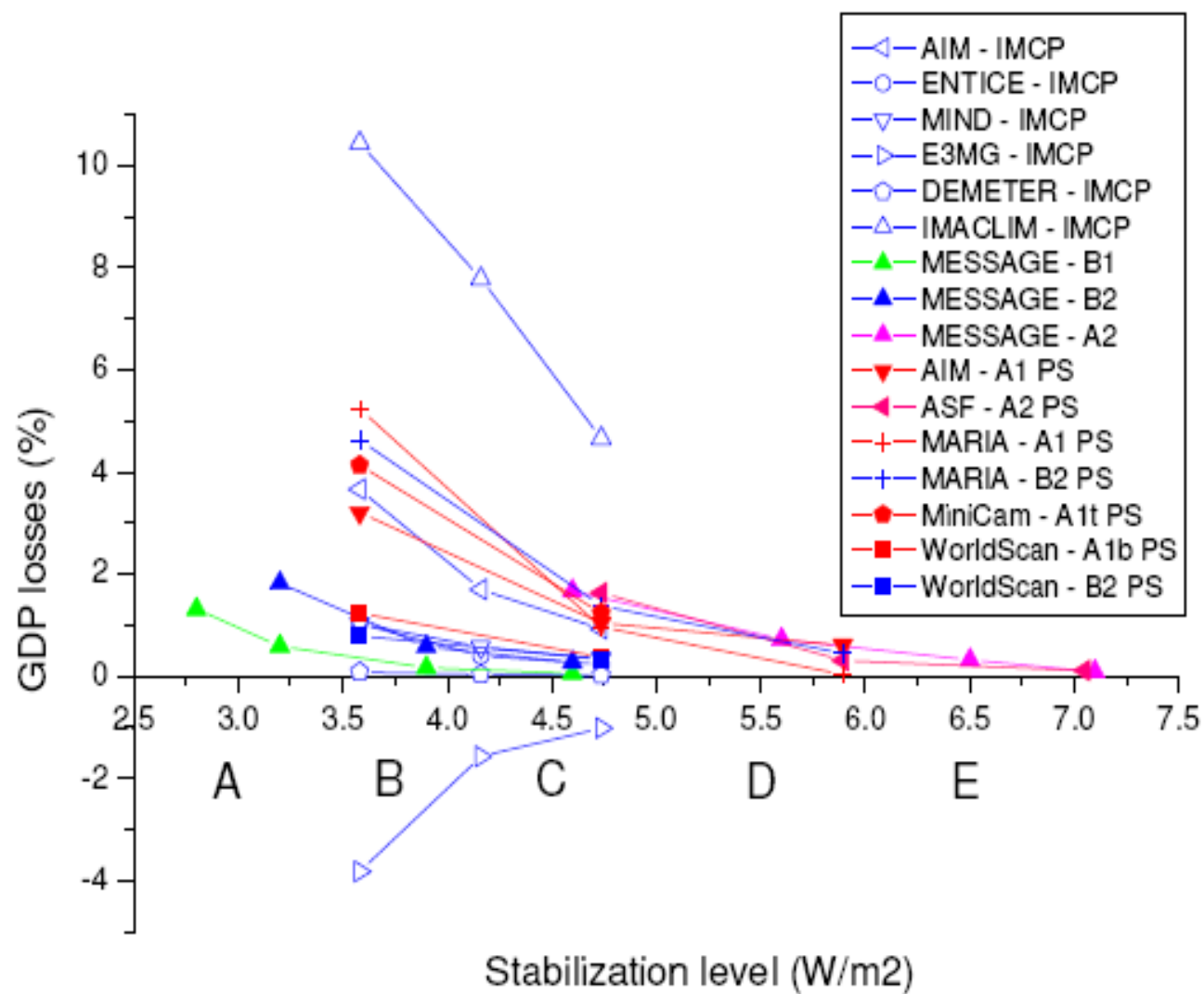
What Flexibility

Carbon Permit Price (2000 \$USD / tC)
in CO₂-Only (solid) and Multigas (dashed) Scenarios



Key Questions

- Are there low (negative) cost options for reducing the growth rate of GHG emissions?
- Is “early action” on climate change desirable?
- Are large “early emission reductions” desirable?
- What should be done on climate change mitigation?



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MULTI-GREENHOUSE GAS MITIGATION AND CLIMATE POLICY

Overview of EMF-21: Multigas Mitigation and Climate Policy

John P. Weyant, Francisco C. de la Chesnaye, and Geoff J. Blanford

Global Anthropogenic Methane and Nitrous Oxide Emissions

Elizabeth A. Scheehle and Dina Kruger

Mitigation of Methane and Nitrous Oxide Emissions from Waste, Energy and Industry

*K. Casey Delhotal, Francisco C. de la Chesnaye,
Ann Gardiner, Judith Bates and Alexei Sankovski*

Estimating Future Emissions and Potential Reductions of HFCs, PFCs, and SF₆

Deborah Ottinger Schaefer, Dave Godwin, and Jochen Harnisch

Methane and Nitrous Oxide Mitigation in Agriculture

*Benjamin J. DeAngelo,
Francisco C. de la Chesnaye, Robert H. Beach, Allan Sommer and Brian C. Murray*

Carbon Sequestration in Global Forests Under Different Carbon Price Regimes

Brent Sohngen and Roger Sedjo

GHG Mitigation Potential, Costs and Benefits in Global Forests:

A Dynamic Partial Equilibrium Approach *Jayant Sathaye, Willy Makundi, Larry Dale,
Peter Chan and Kenneth Andrasko*

Flexible Multi-gas Climate Policies

Jesper Jensen

The Role of Non-CO₂ Greenhouse Gases in Climate Change Mitigation:

Studies on mitigation portfolios and macro-economic costs assessed in this report are based on a global least cost approach, with optimal mitigation portfolios and without allocation of emission allowances to regions. If regions are excluded or non-optimal portfolios are chosen, global costs will go up. The variation in mitigation portfolios and their costs for a given stabilisation level is caused by different assumptions, such as on baselines (lower baselines give lower costs), GHGs and mitigation options considered (more gases and mitigation options give lower costs), cost curves for mitigation options and rate of technological change.